

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,276	05/30/2001	Sundar Raman	US018062	8627

7590 08/13/2004

Corporate Patent Counsel  
Philips Electronics North America Corporation  
580 White Plains Road  
Tarrytown, NY 10591

EXAMINER

KIM, KEVIN

ART UNIT PAPER NUMBER

2634

DATE MAILED: 08/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

RECEIVED

AUG 25 2004

Technology Center 2600

# Office Action Summary

Application No.

09/871,276

Applicant(s)

RAMAN, SUNDAR

Examiner

Kevin Y Kim

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-14 is/are rejected.
- 7) ☒ Claim(s) 3 and 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,2,5-12 are rejected under 35 U.S.C. 102(b) as being anticipated by

Zhodzicshsky et al (US 5,953,367).

Consider claim 1. Referring to Fig.4, Zhodzicshsky et al teaches a method of tracking a resolved component (227) of a multipath signal (Fig.1), comprising the steps of,

despreading the resolved component (227) using a locally generated code sequence being advanced by a first delay (228) to obtain an early despreaded signal (the output of the multiplier 229),

despreading the resolved component (227) using a locally generated code sequence being retarded by a second delay (230) to obtain an early despreaded signal (the output of the multiplier 231), and

deriving a correction signal (235) from the early and retarded despreaded signals to control the tracking.

Zhodzicshsky et al further teaches the first and second delays may be adjusted, i.e., "variable" at col.5, lines 42-45.

Art Unit: 2634

Regarding claim 2, the first and second delays are equal since each chip is a half chip delay. See col. 6, lines 20-22.

Regarding claims 5 and 6, since the claimed invention is identically disclosed, the first and second delays of Zhodzicshsky et al likewise “are representative of a quality indicator of the multipath signal” and “are representative of a signal to noise ratio calculated for the multipath signal.”

Next consider claims 7, 10 and 12, Referring to Fig.4, Zhodzicshsky et al discloses a Rake receiver, which is also considered as an “arrangement” or “apparatus,” comprising;

“early shifting means,” not illustrated but inherent in order to generate the early spreading sequence (228),

“first correlating means” (229),

“late shifting means,” not illustrated but inherent in order to generate the early spreading sequence (228),

“second correlating means” (231),

“adjustment means” (243). Refer to the rejection of claim 1 as to the functions of the claimed means.

Regarding claims 8 and 11, the first and second delays are equal since each chip is a half chip delay. See col. 6, lines 20-22.

Regarding claim 9, Zhodzicshsky et al describes the receiver of Fig.4 as a delay lock loop correlator. See col. 5, lines 8-9.

***Claim Rejections - 35 USC § 103***

Art Unit: 2634

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhodzicshsky et al as applied to claim 12 above.

Zhodzicshsky et al discloses all the subject matter claimed except that the receiver is "a cellular phone." Zhodzicshsky et al discloses a GPS receiver and suggests that the invention can be by any ranging system using a PRN sequence. However, a CDMA cellular communication, a Rake receiver is commonly used to demodulate a multipath signal, and a tracking of despreading sequence is needed. Thus, it would have been obvious to one skilled in the art to use the tracking apparatus of Zhodzicshsky et al in the cellular phone used in a CDMA system.

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhodzicshsky et al in view of Schnauffer (US 6,636,558).

Zhodzicshsky et al discloses a tracking method as explained in connection with the rejection of claim 1 in paragraph 2, but fails to teach the method to be implemented by a software application. However, software implementation of a method by performed by hardware is well known in the art because of easily modification and upgrade among other things, as evidenced by Schnauffer. Referring to Fig.3, Schnauffer teaches a similar spreading sequence tracking method including the step of multiplying a received signal with delayed versions of PN sequence using correlators and generating a correction signal. See col.5, lines 24-47. Schnauffer further teaches the method can be implemented purely through software

Art Unit: 2634

modifications. Col. 8, lines 33-35. Thus, it would have been obvious to one skilled in the art at the time at the time the invention was made to implement the tracking method of Zhodzicshsky et with a software application as taught by Schnaufer when desired.

***Allowable Subject Matter***


6. Claims 3 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y Kim whose telephone number is 703-305-4082. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kvk

  
CHIEH M. FAN  
PRIMARY EXAMINER

<b>Notice of References Cited</b>	Application/Control No. 09/871,276	Applicant(s)/Patent Under Reexamination RAMAN, SUNDAR	
	Examiner Kevin Y Kim	Art Unit 2634	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-5,953,367	09-1999	Zhodzicshsky et al.	375/147
	B	US-6,636,558	10-2003	Schnauffer et al.	375/150
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					


**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
 Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.





<div style="text-align: center;">  <p>Substitute for form 1449A/PTO</p> <p><b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b></p> <p><i>(use as many sheets as necessary)</i></p> </div>				Application Number	09/871,276
				Filing Date	May 30, 2001
				First Named Inventor	Sundar Raman
				Group Art Unit	2635
				Examiner Name	
				Attorney Docket Number	US018062
Sheet	1	of	1		

[illegible][illegible]

Examiner* Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>o</sup>
<i>K</i>		AUE V et al, "A Non-Coherent Tracking Scheme for the Rake Receiver That Can Cope With Unresolvable Multipath" ICC '99. 1999 IEEE International Conference on Communications. Conference Record. Vancouver, CA, June 6 – 10, 1999, IEEE International Conference on Communications New York, NY: IEEE, US, Vol. 3, 6 June 1999 (1999-06-06), pages 1917-1921, XP000903700 ISBN: 0-7803-5285-8 figure 2 page 1917, paragraph I	

Examiner Signature	<i>Loan Loan</i>	Date Considered	<i>8/4/2004</i>
-----------------------	------------------	--------------------	-----------------

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP §09. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language translation is attached.

Form PTO-1449 COMMERCE (REV. 7-80)		U.S. DEPARTMENT OF PATENT AND TRADEMARK OFFICE		Atty. Docket No. US018062		Serial No.	
<b>INFORMATION DISCLOSURE CITATION</b> (Use several sheets if necessary)				Applicant SUNDAR RAMAN		Group  <div style="font-size: 2em; font-family: cursive;">2634</div>	
				Filing Date CONCURRENTLY			
<b>U.S. PATENT DOCUMENTS</b>							
Ex. Int.	AA	Document Number	Date	Name	Class	Sub-class	Filing Date If Approp.
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
<b>FOREIGN PATENT DOCUMENTS</b>							
		Document Number	Date	Country	Class	Sub-class	Trans. Yes No
K	AG	0 0 3 9 9 4 0	July 6, 2000	PCT			
	AH						
	AI						
	AJ						
	AK						
<b>OTHER (Including Author, Title, Date, Pertinent Pages, Etc.)</b>							
	AL						
	AM						
	AN						
Examiner <i>Karen Lim</i>				Date Considered <i>8/4/04</i>			
<b>*EXAMINER:</b> Initial if reference considered, whether or not citation is in conformance with MPEP. Draw line through citation if not in conformance and not considered. Include a copy this form with next communication to applicant.							

UC971 U.S. PTO  
09/8/1276  
05/30/01